

EXPEDITION BRIEFING & FORMS

Bison at Challis

Kenneth P. Cannon
Molly Boeka Cannon
National Park Service
University of Nebraska-Lincoln



STUDENT CHALLENGE AWARDS PROGRAM



Bison at Challis

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EXPEDITION BRIEFING

June 15 – 26, 2007



Principal Investigator Ken Cannon. © Molly Boeka Cannon

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Midwest Archeological Center
Federal Building, Room 474
100 Centennial Mall North
Lincoln, Nebraska 68508-3873



Dear Student Challenge Awards Program Participant,

On behalf of the research team, we would like to extend our gratitude for your support and welcome you to the Challis Bison Kill site investigation. We all look forward to an enjoyable, stimulating, and fruitful experience for ourselves, as well as for you. Without your efforts this project would not be possible, and we hope this will be the beginning of a long-term friendship and love of field research.

The site lies along the Salmon River in central Idaho, a beautiful but relatively unknown part of the intermountain west. The area was settled by ranchers and prospectors, which is still evident in the local economy. The region was visited by Lewis and Clark in 1805 on their historic journey west. Meriwether Lewis in his journals commented on the rugged beauty of the area in describing the "most lofty mountains...[Clark] had ever seen which are perfectly covered with snow."

As you will read in the briefing, our work will apply new methods and technologies to the recovery of data from a site that was originally investigated 35 years ago. The importance of the site to understanding regional hunting and bison ecology can not be understated (it is listed on the National Register of Historic Places), so it is important that we try and reconcile the differences in the original research findings and our recent reanalysis. You will be instrumental in collecting this data. We will train you in the appropriate techniques for excavation and data collection. There will be plenty to do, and we will encourage you to take part in all aspects of the project.

In addition to working on the Challis Bison Kill site, we plan on having evening lectures by our research team and local researchers. A field trip is also planned and the details are being finalized.

Because the site is adjacent to the Land of the Yankee Fork Museum we will probably have visitors. We are working with the museum to have staff oversee the visitation, but you will probably be asked to explain your work. We are also working with the Challis Bureau of Land Management to create a daily blog of activities. More details to follow.

As you will soon learn, field research involves an intensive and extensive work schedule. Due to our limited time in the field and ambitious agenda, we try and fill all our non-sleeping time with research-related tasks. But don't feel daunted – being focused on a research topic within a community of researchers can be quite fun and rewarding. Three things you should remember: be flexible to changing situations, patient, and detail-oriented.

Again, let us take this opportunity to thank you in advance for your participation. I know it will be a wonderful experience for all, and we look forward to sharing the joy of discovery and challenge of field research.

Happy Trails,

Kenneth P. Cannon and Molly Boeka Cannon, Principal Investigators



© Ken Cannon

Bison at Challis

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Volunteers mapping an excavation. © Molly Cannon

GENERAL INFORMATION

PRINCIPAL INVESTIGATORS: 1) **Kenneth P. Cannon**
2) **Molly Boeka Cannon**

POSITIONS/TITLES: Archeologists

AFFILIATIONS: National Park Service, Midwest Archeological
Center and Department of Anthropology and
Geography, University of Nebraska-Lincoln

PROJECT TITLE: **Bison at Challis**

RESEARCH SITE: Challis Kill Site, Custer Country, Idaho

RENDEZVOUS POINT: Bureau of Land Management, Challis Office,
Challis, Idaho

EXPEDITION DATES: June 15 – 26, 2007

EXPEDITION LENGTH: 12 days

TEAM SIZE: 8 students

BRIEFING VERSION 1



Team screening sediments. © Kathy Helton

PREPARING FOR YOUR EXPEDITION

In this Briefing

Preparation for your research expedition begins with careful review of this briefing, which includes important information on the logistics of your trip and on the work of professional scientists. Your assignment is to work under the direction of these scientists, enlisting your talents, initiative and exuberance to make the research effort a success.

- **Please consider this briefing required reading for participation on the project and bring it with you to the field**

It is presented in three main parts:

- 1) The Expedition
- 2) Daily Life in the Field
- 3) Travel Planning

These parts are broken down into specific and easy to understand sections, such as *Accommodations*, *Health Information* and *Team Itinerary*. Review the Table of Contents carefully and make sure you read each section. Additionally, research information regarding the objectives, methods, and results of the project are included in the appendix of the briefing. It is important to read this information to truly understand the work you will be contributing to.

A collaborative effort of Earthwatch Institute staff and the Principal Investigators, the briefing will answer your questions about travel, rendezvous, the research area, the living and working conditions you will encounter and the project staff with whom you will work. The overall objectives and methods of the research are described, as well as the specific tasks in which you will participate. It is possible that you may come across new words and phrases while reading through the research section, so it's a good idea to have a dictionary handy.

This briefing includes the most accurate information available at the time of your Principal Investigators' project planning, however, the precise work that you do may differ somewhat from that described. Please keep in mind that research requires improvisation. Research plans, especially in field research contexts, evolve in response to new findings as well as unpredictable factors such as rainstorms, equipment failures, politics, etc. The nature of research expeditions requires flexibility in plans and expectations. To maximize the success of your experience, remember to expect the unexpected, be tolerant of repetitive tasks, and try to find humor in difficult situations. We will keep you informed of any major changes in the research plan or field logistics before you go into the field.

Physical and Intellectual Preparation

In addition to reading and reviewing the briefing materials, we recommend extracurricular study and physical conditioning. Advance reading will enhance your understanding of the scientific questions addressed by the research. The briefing includes an optional reading list that can shorten your training time in the field. Some Principal Investigators include additional reading material within the briefing; others will send you articles and/or provide printed information at the research site.

Pay attention to the *Project Conditions* section! Regular exercise is especially important for volunteers who will be doing fieldwork. Your ability to quickly adapt to your project's physical

demands will enhance both your enjoyment of the work and the productivity of your team. The briefing describes the physical demands of the project and may suggest specific activities for advance conditioning.

We encourage you to read novels or history books based in or near the research area of your expedition. Such stories will provide you with an interesting introduction to the location in which you will be living and working, and may help you “perceive” many unique features of the local culture and landscape.

Consider working on skills that will help you support, broaden and recall this research experience. For instance, we encourage volunteers who will be participating in field biology research to take walks and to pay more attention to their surroundings. Begin developing the patience and observational skills of a scientist.

Journal writing: As a means of reflecting on this experience, you are encouraged to bring a journal to record your daily observations, thoughts, ideas, stories, drawings and/or feelings. You may also choose to take notes on scientific lectures, discussions and findings. Your observations and field notes can be just as important to the research team as those gathered by more experienced staff members. And whether you can draw or not, sketches of your observations will also help you remember your experiences and describe them to others.

Photography and art: Bring along your camera and/or art materials. Though research tasks take precedence and require focus, we encourage you to record your experience through photographs or drawings whenever working conditions allow.

In addition to print film for snapshots of new friends and beautiful scenery, consider using slide film and/or digital images. Action photos of your teammates working on a research task, of the research site and of the research subject provide important visuals for presentations. As stories develop out of your day-to-day experience, keep an eye out for images to illustrate these stories. If your expedition inspires any artwork that you are willing to share, Earthwatch Institute welcomes the opportunity to copy and use photographs, drawings, watercolors and cartoons in its various publications and online.

Emotional Preparation

Most likely, you will be working in a place you have never been before, with people you have just met, on tasks that require new knowledge and skills. Some aspects of your expedition, whether physical, social or intellectual, are bound to challenge you and prompt emotional highs and lows. Be mindful of these feelings and don't hesitate to communicate emotional concerns to the research staff.

The following sequence of feelings is typical:

- **Stage 1:** Everything is new and exciting; you feel terrific
- **Stage 2:** Disappointment in the reality of the situation; for instance, it has been raining for days and the work is more difficult than you expected it to be
- **Stage 3:** Your emotions reach an even plateau; things don't seem so rough, you understand the work and you feel you are making a contribution!

Being Part of a Team

Your team consists of a relatively small group of student volunteers and project staff. Many people are not used to the close living conditions and/or physical demands common to field research. The ability to get along with others is of paramount importance. Your expedition may include group activities, such as meal preparation and clean-up, which require as much teamwork as the research itself. At the start of your project, staff and volunteers will establish ground rules that will ensure a fun, safe, respectful, inclusive and productive expedition experience for the whole team.

When abroad or in another part of the country, you are viewed as ambassadors of your home region. Be courteous and respectful of local customs as well as the diverse backgrounds and customs of your teammates. Your professionalism and general demeanor are important to your Principal Investigators, Earthwatch Institute and all teenage volunteers who may follow you. The poor judgment of one team member, for example violating program rules or possession of illegal drugs, could jeopardize the entire mission of this and future expeditions.



The Challis Bison Jump. © Ken Cannon

THE EXPEDITION

1. PROJECT OVERVIEW

The Challis Bison Kill site with its associated Quill Cave is one of the best known archeological sites in central Idaho. It is included on the National Register of Historic Places and is currently managed by the Challis Office of the Bureau of Land Management (BLM). B. Robert Butler of Idaho State University excavated the Challis Bison Kill site in 1970 and it became integral to his models of bison ecology and hunting in eastern Idaho. Butler argued that the site was used as a bison jump by Shoshoni Native Americans during the early part of the 19th century. Based on the number of projectile points recovered, he estimated that between 20 and 30 bison were killed. However, erosion and the construction of a borrow pit have impacted the site, and poor preservation of the remains makes it difficult to confirm his numbers.

Recent reanalysis contradicts Butler's interpretations suggesting an older and more complex site history. The *Bison at Challis* project will assess the status of the remaining archeological deposits, collect information to clarify the discrepancies between the original interpretation and recent reanalysis, and provide information to the BLM on site protection and stabilization. In order to accomplish these goals the project will use a number of methods to relocate the original excavation block and gather data. These will include geophysical surveying, high resolution artifact mapping, and using Global Positioning Systems (GPS). The research team is interdisciplinary and will investigate a range of topics in order to develop a more complete understanding of the site's cultural and ecological context.

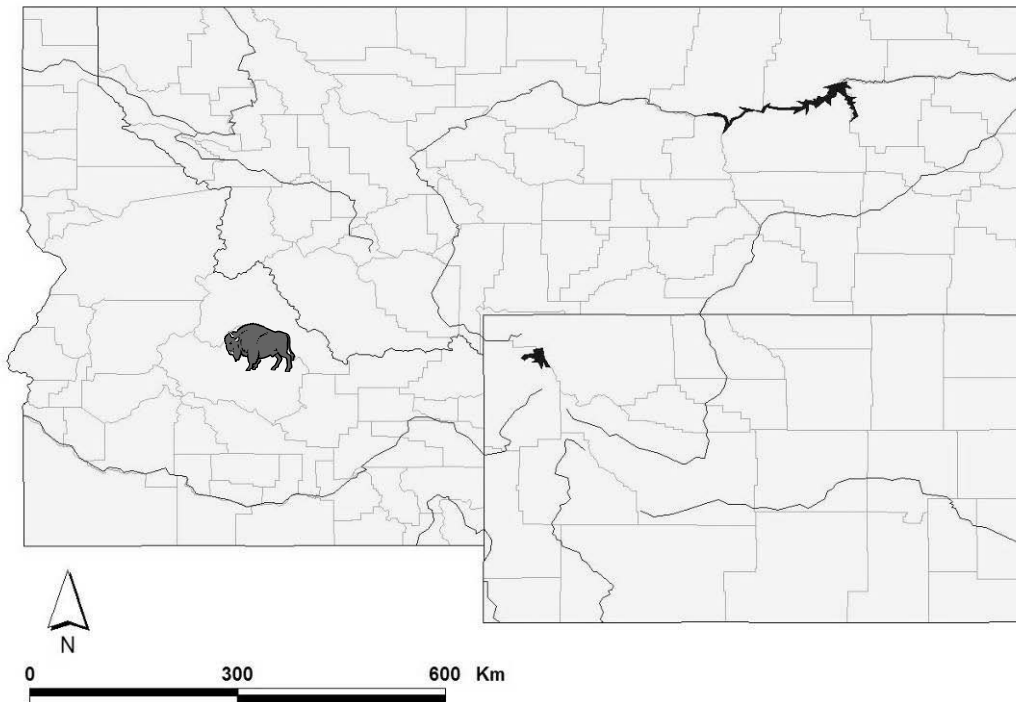
Note: See *Bison at Challis: The Research* in the appendix of this briefing for information on the research objectives, methods, and results of this project.

2. RESEARCH AREA

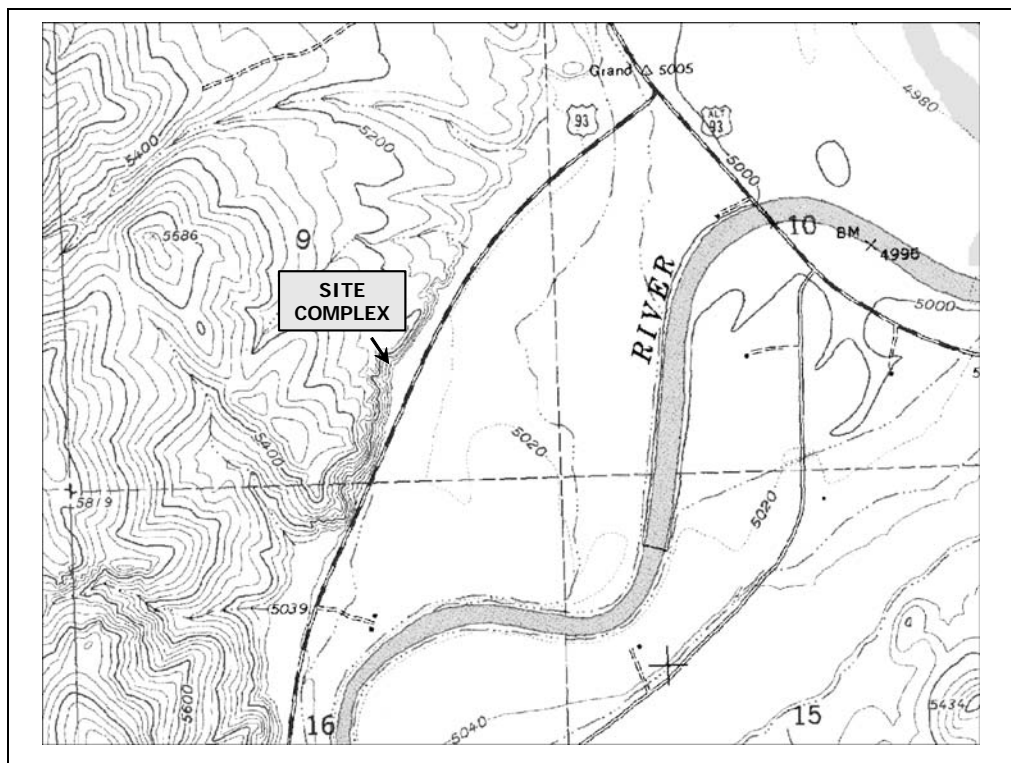
Physical Environment

Challis is located in the center of Idaho, in the heart of the Rocky Mountains, and is surrounded by the Salmon-Challis National Forest. The Challis site complex lies within the valley of the Salmon River. Known as "The River of No Return," it is the longest free flowing river within one state in the Lower 48. East-central Idaho is known for its large valleys that lie between mountains rising abruptly from the Snake River Plain. Idaho's first and second highest peaks, Borah Peak (12,862 feet) and Leatherman Peak (12,230 feet) are located in the Lost River Range, not far from the Challis site. Frequent earthquakes along fault scarps are characteristic of the region and analyses indicate that the mountain ranges are being pulled apart, making the valleys wider with time. The most recent earthquake was the Borah Peak Earthquake of 1983, which registered a Richter magnitude of 7.3. A six-foot-high fault scarp formed during this earthquake and is easily visible from Highway 93 near Willow Creek Summit.

The area's climate is generally cool and dry with short, warm summers. Annual precipitation is about 7.1 inches, falling as snow from November through March, though snow has been known to fall later in the spring. May and June are typically the rainiest months.



Regional map of the location of the Challis Bison Kill site in central Idaho



US Geological Survey topographic map of the area around the Challis Bison Kills site

One of the most striking features of this area, besides the rugged mountain terrain, is the variation in the types of plants and animals that occur at different altitudes. Within central Idaho 51 forest habitat types have been identified, a diversity reflecting the range of climatic, geologic, and topographic conditions in the region. The four distinct vegetative communities in the area, ordered from highest altitude to lowest, are alpine, subalpine, montane and grass/sagebrush. The Challis site complex is within the grass/sagebrush community. This community provides habitat for several different bird species, especially during breeding seasons. Typical small mammals in the area include ground squirrels, deer mice, Great Basin pocket mice, short-tailed grasshopper mice, wood rats and black-tailed jack rabbits. Prior to widespread predator control, local carnivores likely included red foxes, coyotes and timber wolves. Coyotes and red foxes are still common and timber wolves have recently been reintroduced into the area.

Ungulate species have also undergone dramatic shifts in distribution and density. Evidence suggests that elk, mule deer, antelope, and bison were all widespread and abundant in the valleys prior to Euro-American settlement. In a review of the prehistoric faunal record, Principal Investigator Kenneth Cannon found that bison were most abundant in the wide valleys of the Snake River Plain, though other authors have argued that the sagebrush-steppe never supported large herds of bison. Large carnivores such as black bears, grizzly bears, bobcats, and mountain lions were also probably common in the area, dispersed throughout the various ecotones. Additionally, Rocky Mountain sheep, which are generally confined to the rugged terrain of the foothills and mountains of the area, are common in the valleys during winter.

In riparian areas, cottonwood trees dominate the overstory and willows are common. This habitat is home to mammals such as river otters, beavers, and water shrews, among others. A large number of waterfowl are also present, both as residents and seasonal migrants.

Marshes, more common in the eastern valleys, provide habitat for plants such as sedges, cattails, reeds, and willows. These areas support abundant wildlife including seasonally migratory waterfowl. Bird species include the American coot, red-winged blackbird, yellow-headed blackbird, marsh wren, yellowthroat, northern harrier, and the sandhill crane. Mammals such as the meadow vole, water vole, muskrat, beaver, and possibly moose live in these areas.

Cultural Environment

Historically, the intermountain regions of the western United States offered aboriginal hunter-gatherer groups a large variety of resources within relatively short distances. Studies indicate that aboriginal groups consistently depended upon ungulates for subsistence, with shifts through time a possible reflection of changes in ungulate abundance and distribution due to changing climate patterns.

The town of Challis was founded in 1876 as a supply base to support mining and ranching following the discovery of gold near there in 1873. Alvah P. Challis laid out the town and connected it by a toll road to Custer, allowing Challis to become a trading center for nearby mines. Although Custer and many other mining camps in the area eventually became ghost towns, Challis remained and prospered. As the seat of Custer County, the town is the economic center of present-day mines, ranches and farms. More than 40 minerals continue to be extracted from the area, including gold, silver, and molybdenum.

Challis is now a community of 1,200 people that boasts the state's largest collection of old log homes. The cultural environment is typical of most towns in the western United States. The predominate language is English, though many cultural groups visit this tourist destination. The setting is relaxed with little political tension. Volunteers should feel free to discuss local, national, or international politics as long as they are respectful and tolerant of other viewpoints.

3. PROJECT STAFF

With the exceptions of Dr. Bozarth and Dr. Henrikson, who will not be onsite, the staff listed below expect to be present during the SCAP expedition. Note that staffing is subject to change.

Principal Investigators

Kenneth P. Cannon is an archaeologist with the National Park Service's Midwest Archaeological Center. He holds an M.A. in Anthropology from the University of Tennessee (1989) and is currently a Ph.D. candidate in the Department of Anthropology and Geography at the University of Nebraska-Lincoln. Ken has supervised numerous archaeological projects investigating hunter-gatherer settlement and subsistence in the Greater Yellowstone Area and the intermountain west. He has received private donations to continue his work in the region concerning the prehistoric use of obsidian and the ecology of prehistoric bison. He has also received grants from the US Fish and Wildlife Service (2003-2004), the Bureau of Land Management (2000, 2006) and the Teton County Historic Preservation Board (2003, 2006) to investigate the role of bison in the ecology and economy in Jackson Hole and central Idaho. His research interests include hunter-gatherer adaptations to mountain environments, intermountain mammalian biogeography, environmental reconstruction, fire history and its effects on archaeological sites, the role of archaeology in ecosystem management, and obsidian use by hunter-gatherers in the intermountain west. Ken will begin a new phase of research in north central Mongolia on the transition from archaic to modern humans as part of a multidisciplinary team in the summer of 2007.

Molly Boeka Cannon is a cartographic technician with the Midwest Archeological Center where she is the coordinator of the Geographic Information System (GIS) database for public lands in the Midwest and western United States. She holds an M.A. in Anthropology from the University of Wyoming (2002) and is currently a Ph.D. student in the Department of Anthropology and Geography at the University of Nebraska-Lincoln. During her undergraduate career Molly worked in Idaho, Massachusetts, Nebraska, Wyoming, and Turkey. Along with Ken Cannon, she recently received a Challenge Cost Share Grant from the Bureau of Land Management for the reanalysis of material from the Challis Bison Kill site. For her Master's thesis she studied the cultural and natural distributions of artifacts at the Lawrence Site of Jackson Lake, Wyoming. Her research interests include GIS, hunter-gatherer land-use patterns and landscape archaeology. For this Earthwatch project Molly's role will be the collection and interpretation of the geophysical data and the GIScience portion of the study.

Research Staff

Natasha Andrews has been in food preparation for the past six years at schools in Pinedale, Wyoming and Challis, Idaho. As the head cook for the Challis Junior-Senior High School she is responsible for the preparation of both breakfast and lunch for up to 150 students plus school staff. She has also been involved with retail food preparation at a local deli for 2.5 years and is an accomplished cake decorator, providing specialty items including wedding cakes. Natasha is fluent in Russian. She is married with a son in the 11th grade. Her husband, Keith, works for the Bureau of Land Management as a wildlife biologist.

Steve Bozarth holds a Ph.D. from the University of Kansas (1996) and will be responsible for the analysis of pollen and phytolith remains recovered from the site. This information will be essential to understanding how vegetation changed at the site due to shifts in climate patterns and human settlement. Dr. Bozarth has worked extensively on the Great Plains and in Central and South America. His work has been published in *Quaternary Research* (2001), *Current Research in the Pleistocene* (2000) and *Plains Anthropologist* (1993), as well as in edited volumes.

Oskar Burger holds both M.A. (Colorado State University, 2002) and M.S. (University of New Mexico, 2004) degrees in Anthropology and is currently a Ph.D. student at the University of New Mexico. He has extensive archaeological experience in Colorado, Nebraska, New Mexico, Wyoming, Argentina, Bolivia, and Uzbekistan. He has also conducted ethnographic fieldwork among Pume foragers of southwestern Venezuela under the direction of Drs. Karen Kramer and Rusty Greaves. Oskar's research interests include human impacts on ecosystems, the archaeology of resource transitions, scaling in demographic processes, sampling design and survey methodology, zooarchaeology, anthropology and conservation, and human evolutionary ecology. He has received numerous grants and awards.

William Eckerle is a professional geologist licensed in Utah, Wyoming and Idaho, and is senior geoarcheologist at Western GeoArch Research in Salt Lake City, Utah. He holds an M.A. in Anthropology from the University of Wyoming (1989) and is an expert at analyzing the geological and pedological context of archaeological sites. Bill has performed geoarchaeological analysis of hundreds of archaeological sites in the Rocky Mountains, Great Plains, and Great Basin. He uses the principles of geomorphology, stratigraphy, soil science, Quaternary science, and archaeological site formation studies to characterize archaeological sites. Bill and Ken have collaborated on numerous projects in the intermountain west since the 1990s.

Dr. Suzann Henrikson is associate director of the Center for Archaeological Research at California State University, Bakersfield. She holds a Ph.D. from the University of Oregon and has conducted research on the Snake River Plain in eastern Idaho over the past two decades. Her research has taken her to some interesting places, such as the lava tube caves of the Snake River Plain that may have served as permanent freezers for caching meat. She has published in the *Plains Anthropologist*, the *Journal of California and Great Basin Anthropology*, and the *Journal of Archaeological Science*. She also contributed a chapter with Robert Yohe on Late Holocene grizzly bear remains in Snake River Plain.

Neal Haskell is with the Biology Department at St. Joseph's College and holds M.S. and Ph.D. degrees from Purdue University. His main area of expertise is forensic entomology and he uses his knowledge of the life cycles of insects to determine the times and locations of deaths. He is one of the creators of this area of criminal investigation. Dr. Haskell and his work have been on PBS and the *Discovery Channel* several times as well as in *Popular Science* and *Discovery* magazines. He has published in several major journals and books. He has participated in criminal investigations and testified as an expert witness in numerous criminal trials throughout the country as well as outside the United States.

Richard Hughes is the director of the Geochemical Research Laboratory, which specializes in the X-ray fluorescence analysis of volcanic glass (obsidian). He holds a Ph.D. from the University of California, Davis (1983). Since 1989 Dr. Hughes and Ken have been involved in volcanic glass characterization research and have applied the results to support archaeological reconstructions of prehistoric trade and exchange, mobility, and settlement patterns.



Volunteer mapping study site. © Ken Cannon

DAILY LIFE IN THE FIELD

4. TRAINING AND ASSIGNMENTS

Training

Each student will be trained appropriately in the excavation and data collection procedures and no previous experience is necessary. An orientation talk will be presented that will provide you with information on the local natural history and archaeology. Students will receive training in archeological techniques throughout the project. In the afternoon on the second day instructions and a site visit will begin this training. The third day will be spent demonstrating excavation and mapping techniques. Project staff also plan to devote at least one day to a tour of the region. During this field trip the team will visit areas of particular interest for the interpretation of the region's natural and cultural history.

The project will incorporate a number of researchers that will provide you with detailed information on their role in the study and the specific methods they will be using. Research topics, with the researcher who will be presenting each in parentheses, may include:

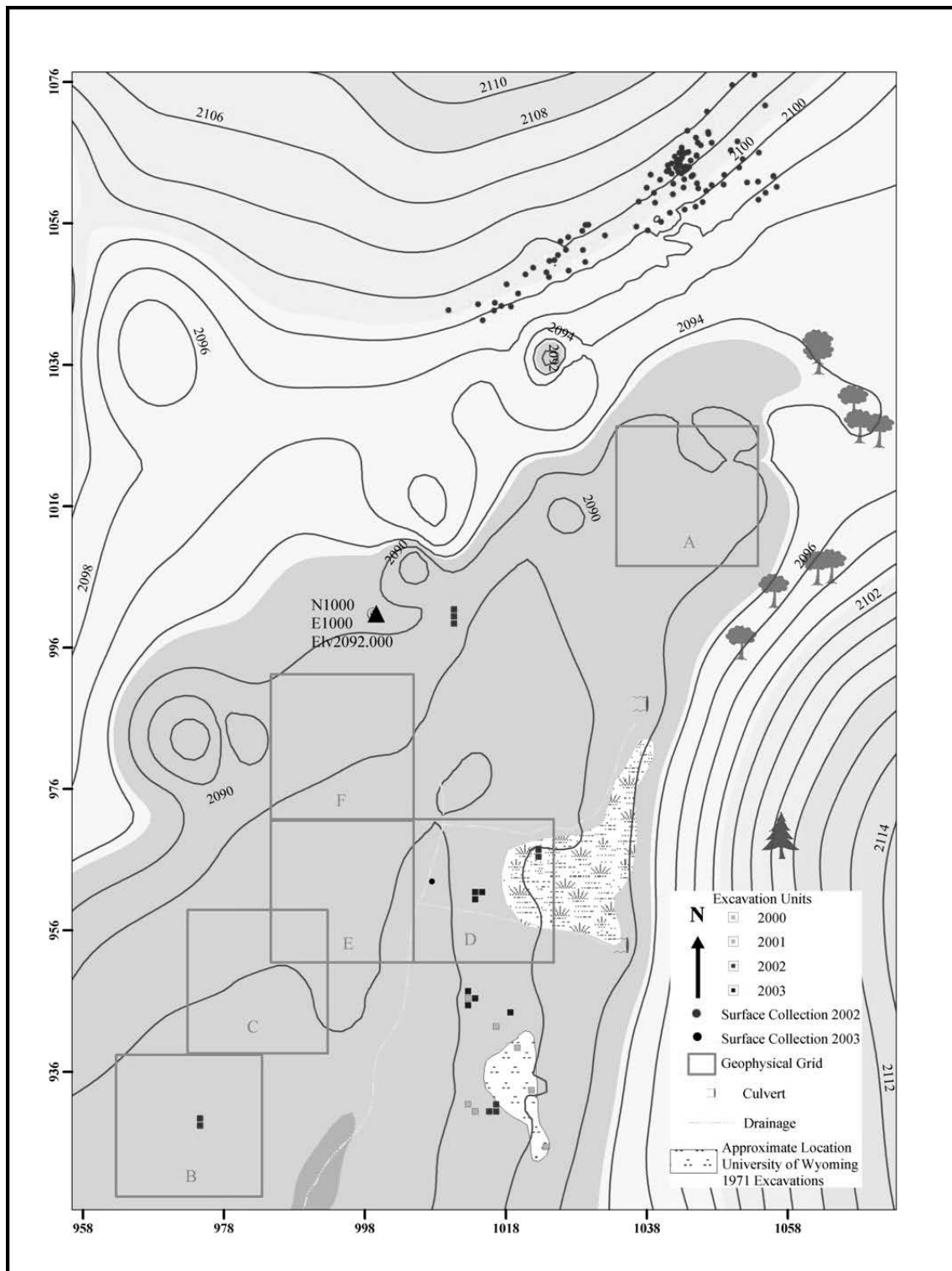
- Bison ecology in the intermountain west (Ken Cannon)
- Global Positioning Systems (GPS) and remote sensing (Molly Cannon)
- Human ecology in the intermountain west (Dr. Suzanne Henrikson)
- Geomorphic and climate history of the Salmon River country (William Eckerle)
- Local and regional history (Carol Hearne of the Challis Bureau of Land Management)
- Dendrochronology and the regional climate record (Dr. Dana Perkins of the Challis Bureau of Land Management)
- Forensic entomology and its role in determining the season of death and paleoclimatic conditions at the bison kill site (Dr. Neal Haskell)

Assignments

Students will be involved in all aspects of the project, including mapping, excavation, sample collection and sediment processing, as well as assisting other researchers in their data collection. You will be involved in the initial analysis and cataloging of collected artifacts and environmental samples. Laboratory work will include washing, sorting, and stabilizing materials for transport. The team will also spend time entering data on the collected artifacts and double checking mapping data and field notes, most likely in the evenings and on Saturday.

Technology

Contemporary archeology relies on a combination of fine-grained recovery methods, precise provenience systems, and remote sensing technologies for the recovery of artifacts and environmental data. Each student will be involved in the application of mapping archeological remains using an electronic distance measurer (EDM), a fluxgate gradiometer, ground penetrating radar, and GPS. Team members will ground-truth remotely sensed data that will come from a variety of aerial and satellite sources. Remotely sensed data will aid in the evaluation of soil and vegetation conditions, and the presence of drive lines.



Research site map.

5. TEAM ITINERARY

| | |
|------------------|--|
| Day 1: | Meet at Idaho Falls Regional Airport on June 15; travel to the team's accommodations (Creekside Bed and Breakfast) |
| Day 2: | Orientation to the research site, methods, and assignments |
| Days 3-6: | Work at the site during the day; briefing, lab work and discussion in the evening |
| Day 7: | Recreational field trip |
| Day 8: | Work at the site during the day; invited guests to visit the site |
| Day 9: | Work at the site during the day; site tour for the public; briefing, lab work and discussion in the evening |
| Day 10: | Work at the site during the day; briefing, lab work and discussion in the evening |
| Day 11: | Final work day; close down excavations |
| Day 12: | Travel back to Idaho Falls Regional Airport to depart on June 26 th |

6. DAILY SCHEDULE AND TASKS

Please be aware that schedules can and do fluctuate due to weather, research needs, etc. Your cooperation and understanding are appreciated. Below is an example of a typically work day.

| | |
|----------------------|--|
| 6:00-6:30 am: | Breakfast |
| 7:30 am: | Leave the accommodations for the research site |
| 8:30 am: | Begin work in the field |
| 12:00 pm: | Lunch |
| 1:00 pm: | Continue work in the field |
| 4:30 pm: | Begin closing down the site for the evening |
| 5:00 pm: | Return to accommodations and relax before dinner is served |
| 6:00 pm: | Dinner |
| 7:30 pm: | Discussion and planning time, as well as data entry and sample processing; talks by research team and local scholars will be planned for some evenings |
| 9:00 pm: | Recreational time before bed (good time for night walks, talking to other biologists or visitors, etc.) |

7. ACCOMMODATIONS

Students and project staff will stay at the Creekside Bed and Breakfast (B&B), a 10-minute drive from the research site. The Creekside consists of a recently restored 4,000-square-foot Victorian home and cottage, both of which will be used by the team. All bedrooms have queen-sized beds and will be shared by team members of the same gender. Bathrooms are private, but will be shared among all members of the team. Bedding and towels will be provided. The Creekside also has a sitting room, library, deck, and satellite television.

You are free to bring along small electronic equipment to plug in at the B&B, but personal music players (e.g. iPods, CD players, etc.) and cell phones will be restricted to use during travel to and from the rendezvous. There is no internet service at the B&B, though you can access the internet at the local Challis library one block away.

8. FOOD

Meals will be prepared by Natasha Andrews of Challis, who has extensive experience in the development and preparation of the Challis public school menu. She is a native Russian and promises to prepare a few traditional Russian meals.

Below are examples of the foods and beverages you might expect during your expedition. Please bear in mind that variety depends on availability. This list is intended to provide a general idea of food types, but it is very important that participants be flexible.

| | |
|-------------------|---|
| Breakfast: | Cereal, fruit, pancakes, eggs, bacon, sausage |
| Lunch: | Fruit, vegetables, luncheon meats, cheese, sandwich bread |
| Dinner: | Salmon, lasagna, pork loins, vegetables, salad |
| Snacks: | Fruit, vegetables, cheese, crackers, cookies |
| Beverages: | Fruit juice, coffee, variety of caffeinated and herbal teas, soda |
| Water: | Tap water is potable and large water coolers will be available |

Special Dietary Requirements

Please alert Expedition Coordinator Alison Whelan to any special dietary requirements as soon as possible (e.g. diabetic, lactose intolerant, etc.). Accommodating special diets is not guaranteed and can be very difficult due to availability, location and local conditions.

Special note to vegans and strict vegetarians: Please be aware that it is often difficult to accommodate strict vegetarians. Meatless meals can be provided, but strict vegetarians may have a problem avoiding animal products altogether. If this poses a problem, then participation on this expedition should be seriously reconsidered.

TRAVEL PLANNING

9. BEFORE YOU LEAVE

Participants Under 18 Years of Age

Airlines may have documentation requirements for unaccompanied minors. Parents of minors are responsible for checking with each airline that their child will be flying to ensure that sufficient documentation is provided. This could include a copy of a birth certificate or a notarized letter stating that the minor has his or her parent's permission to travel alone.

International Evacuation Insurance

All students who are awarded a Student Challenge Awards Program expedition are automatically covered under the standard group plan for travel, medical and evacuation insurance offered by On Call International. On Call is a 24-hour international operation which provides medical assistance and evacuation, a 24-hour nurse help line and other travel assistance services such as lost baggage and lost document assistance. The insurance covers travel medical risk, including medical expenses and medical evacuation, while traveling with Earthwatch overseas or on an expedition within your home country. Without insurance, the costs of such measures can range from US\$20,000 to \$50,000. Coverage begins when your group forms for the expedition and ends when the group disbands and is incremental to your existing health insurance.

Options are available for students who would like to purchase additional baggage insurance. Please call Alison Whelan (+1 800 776-0188, extension 229) for more information.

A detailed description of the Volunteer Medical and Evacuation Insurance Program policy, including the optional coverage increases, will be sent with this briefing.

To contact On Call International in the event of an emergency, dial:

- 1-866-509-7715 from within the US
- +1-603-898-9159 from outside the US

State that you are on an Earthwatch expedition. The Earthwatch policy number is #US008020.

Personal Funds

All meals, snacks, and drinks will be provided by the project. You may wish to bring some spending money for souvenirs, postage, postcards, bowling, etc. Any form of US currency is appropriate and each student will be responsible for securing their own money. How much money a student brings is a personal choice.

Travel Arrangements

Earthwatch Institute will be working with Tzell New England Travel Specialists to make your plane reservations. You will be sent an itinerary to approve – **please examine it closely!** When you have approved the itinerary, Tzell will mail your plane tickets (hard copy or e-tickets) with the confirmed/final travel itinerary two to three weeks in advance of your departure for the

research site. You need only concern yourself with getting to the nearest airport from your home (and back). Please plan to arrive at the airport two hours before your flight.

In the event of any unforeseen change in your travel plans after you have received the itinerary, please call Alison Whelan at Earthwatch at +1 800 776-0188, extension 229, or +1 978 450-1229 as soon as possible.

If you need last-minute help, after you contact Earthwatch, you may be instructed to call Tzell directly to resolve any problems with your travel itinerary. The contact at Tzell is:

- **Maurice Hebert**
Tzell New England Travel Specialists
20 Melrose Street
Boston, Massachusetts 02116
Tel: +1 617 422-5000
Email: MHebert@Tzell.com

Problems in Transit

Follow the directions in the 'Rendezvous' section. If you need additional help and it's during regular business hours (Monday-Friday, 9:00 am-5:00 pm EST), these are numbers you can call:

- Alison Whelan +1 800 776-0188, extension 229, or +1 978 450-1229
- Earthwatch Institute +1 978 461-0081 or +1 800 776-0188

Lost Luggage

Lost luggage is a recurrent problem for travelers, whether taking short domestic flights or journeys around the globe. Earthwatch recommends that you **take a carry-on bag with a set of field clothes and shoes, plus any personal essentials**, so that you will not be uncomfortable or incapacitated if your baggage takes several days to catch up with you.

Out-of-Pocket Travel Expenses

Earthwatch Institute covers the cost of your travel to participate in your expedition. This includes travel to the rendezvous site as well as from the rendezvous to the research site.

We advise carrying a credit card or US\$200-300 in traveler's checks in case you experience interruptions in your travel. Earthwatch will reimburse you for any unexpected costs incurred as a result of unforeseen circumstances while traveling to and from the research site. To receive reimbursement, just save your travel receipts and send them, with a narrative report, to Fellowship Coordinator Annie McGuinness at Earthwatch Institute within 30 days of your return.

Confirming Your Flights

Prior to travel, take a few minutes to confirm your flights with the airlines. Sometimes flight numbers or departure times change, and you need to keep on top of it! **Airlines don't always notify you of these changes.** You can find many airlines' flight statuses at the websites below.

- Alaska Air: <http://www.alaskaair.com/airport/flightstatus//flightstatus.aspx>
- US Airways/America West: <http://www.usairways.com/awa>
- American Airlines: <http://www.aa.com>
- Continental Airlines: <http://www.continental.com/travel/tcFlightAndGate.asp>
- Delta Airlines: http://www.delta.com/traveling_checkin/flight_status_updates/index.jsp
- Northwest Air: <http://www.nwa.com/travel/flifo>
- Southwest Air: <http://www.southwest.com>
- United Airlines: <http://www.united.com>

10. PROJECT CONDITIONS

Please show this section to your physician when he/she is completing your health statement. Be sure to discuss inoculation requirements with your physician well in advance of your departure date. See Section 11 'Health Information' for inoculation information.

To the examining physician:

Your patient has volunteered to join a field research team that has specific physical demands of which you and your patient should be aware. **We need your accurate evaluation of your patient's ability to meet the conditions detailed below in order to safeguard his/her health and safety and ensure that he/she can participate fully and effectively.**

June Conditions at the Research Site

You need to be prepared for all weather conditions, from warm temperatures to cold rain. The sun is very intense at this altitude (5,072-8,500 feet) and wide-brimmed hats and sunscreen are mandatory. Afternoon winds are common in mountain environments and can blow dirt and grit which may exacerbate allergies. Evenings can be cold, so warm and windproof clothing is advised. Snow at this time of year is a possibility. A full discussion of local conditions will be provided as part of the orientation. Below are average June conditions at the site.

| | | | |
|--------------------------|---------|----|--------|
| Humidity | 10% | to | 40% |
| Temperature Range | 46°F | to | 85°F |
| Rainfall | 0.13 in | to | 2.9 in |

Physical Demands

You must be reasonably healthy and physically fit with no chronic health conditions in order to participate in this project. The work will be strenuous at times, especially during excavation and when hiking. A typical work day will involve squatting, bending, and other contortions of the body in order to excavate around cultural deposits. Much of the work is tedious and not extremely strenuous, but you will be required to lift buckets of sediment and use shaker-screens to sift the sediments. Hiking will be minimal on a daily basis, except when a portion of the crew conducts a pedestrian survey on top of the bluff to locate drivelines and other cultural deposits. Getting up on the bluff will require climbing on loose, talus material.

The biggest physical demand will be keeping your body protected from the intense sun and dehydration. Again, wide-brimmed hats and other protective cover are encouraged, especially for light-skinned individuals.

Below are the expected demands of the project, but please keep in mind that conditions may change and the project could potentially be more or less strenuous than the chart indicates.

| Activity | Workload/Intensity |
|-----------------|---|
| Sitting | For 8 hours per day, intermittently |
| Bending | For 8 hours per day, intermittently depending on task |
| Hiking | 1-5 miles per day |
| Walking | Intermittently during periods of excavation |
| Carrying | 10-20 lbs, possibly several times daily |

Psychological Demands

You need to be prepared to live communally and work closely with your teammates. There are some private areas within the accommodations, but they will not always be available and you must be able to cope with having little privacy during the expedition.

Potential Hazards

Below are some of the risks associated with the project, the research area, etc. Safety will be discussed in more detail at the orientation and each student will be made aware of the hazards.

| Hazard Type | Associated Risks and Precautions |
|----------------------|--|
| Transportation | Typical driving/traffic related risks will be present. Safe, modern, Earthwatch approved vehicles will be used and safety belts will be required. |
| Terrain | The field site is generally flat, but it is possible to trip/slip on loose soil and rocks and sprained ankles can and do occur. Any open excavation units will be clearly marked. The team may also take field trips to areas with rugged, uneven terrain. Appropriate footwear is important. |
| Animals | It is unlikely that the team will encounter any dangerous wild animals; however, there are rattlesnakes in the region. The team will avoid areas where rattlesnakes have been spotted. |
| Plants | Plants in the area that can cause skin irritation and minor cuts include prickly pear, sagebrush and rabbitbrush. You will be instructed to avoid these plants. |
| Climate/ Weather | As stated above, it is very important to apply sunscreen, wear a wide-brimmed hat and appropriate clothing, and drink plenty of water to protect against sunburn and dehydration. Additionally, thunderstorms are common in the summer. Weather will be monitored and the team will take shelter in vehicles or the museum if necessary. |
| Project equipment | Take care when using shovels and trowels to avoid injuring yourself or others. There will be a backhoe onsite and students will be instructed to stay clear of it during operation. |
| Personal security | The team will be staying in a town with a low incidence of crime. Students will be supervised at all times and Earthwatch team members will be the only guests at the accommodations. However, it is still important to keep track of your personal money and valuables. |

Medical Conditions of Special Concern

As discussed above, it is important that participants be in good health with a moderate level of fitness. Therefore, anyone whose mobility is limited due to poor physical fitness, severe asthma, bone/joint or muscle problems (e.g. back, knee or ankle injuries), or other conditions (e.g. wheelchair-bound) would find participation difficult or impossible. Additionally, any conditions that might be exacerbated by intense direct sunlight should be seriously considered. Please speak with your physician and list any medical/health conditions on your health form prior to participation.

11. HEALTH INFORMATION

All students should make sure to have the following up-to-date immunizations: DPT (diphtheria, pertussis, tetanus), polio, MMR (measles, mumps, rubella) and varicella (if you have not already had chicken pox). Please be sure your tetanus shot is up to date.

Medical decisions are the responsibility of each student. Note that health conditions around the world are constantly changing, so keep informed and consult your physician, a local travel health clinic, the US Center for Disease Control (www.cdc.gov), the World Health Organization (www.who.int) or the resources in Section 15 '*Helpful Resources*' for the latest health information for travelers.

12. PACKING CONSIDERATIONS

**PLEASE SEE THE PACKING CHECKLIST AT THE BACK OF THIS BRIEFING AND
REMEMBER TO TAKE YOUR BRIEFING WITH YOU ON YOUR EXPEDITION.**

General Considerations

Do not bring more luggage than you can carry and handle on your own. A backpack is ideal. Clothing and equipment can be obtained from outdoor gear supply stores such as REI (www.rei.com) and Campmor (www.campmor.com). If traveling by air and checking your luggage, you are advised to pack an extra set of field clothing and personal essentials in your carry-on bag so that you aren't greatly inconvenienced if your luggage is lost and/or takes several days to catch up with you.

Note that while you may bring a personal music player (e.g. Walkman, iPod, CD player etc.), electronic gaming devices, and/or a cell phone to be used during travel to your rendezvous site and when you are traveling home after the expedition, you will be asked not to use these items during the project. This expedition is a unique opportunity for you to immerse yourself in the field research experience and to interact with your peers, scientists and graduate student team mentors – without the use of electronic entertainment!

If you find that assembling what you'll need to participate on this project poses financial hardship, please contact Fellowship Coordinator Annie McGuinness or Expedition Coordinator Alison Whelan at Earthwatch Institute.

Weather Considerations

Please take weather conditions into consideration when packing for your expedition. Climate information can be found in Section 10 '*Project Conditions*.' While you are encouraged to consult a weather website (e.g. www.weather.com) prior to your expedition, be aware that weather changes rapidly in the mountains and long-term forecasts are typically not dependable. Severe thunderstorms, cold rain, hail and snow are all possible, and intense sun and warmer temperatures are also likely. Bring along clothing that can be layered according to the varying temperatures and conditions. Also be sure to have raingear – both a jacket and pants.

Essential Items

Make sure to bring your Earthwatch Expedition Briefing with you! It includes essential information to which you may need to refer during your expedition, as well as during your journey to and from the project site. Also remember to bring the journal that was sent to you.

Please see the Expedition Packing Checklist for a complete list of what you will need to take with you. You are encouraged to go through the list and mark off each required item right before you leave for your expedition. This list conveniently tears out from the briefing, so you can take it with you when shopping and preparing for your expedition. Make sure to bring the list with you on your expedition so you can check it again before you return home!

13. RECOMMENDED READING

Please read *Bison at Challis: The Research in the appendix of this briefing*. This document was prepared by the Principal Investigators and Earthwatch and explains the research conducted through this project as well as some results to date. Below are additional recommended materials for those interested in further preparing for the expedition. Many can be purchased online through popular vendors. See Section 15 '*Helpful Resources*' for suggested vendor websites.

Books

- *To Save the Wild Bison: Life on the Edge in Yellowstone* by Mary Ann Franke (University of Oklahoma Press, 2005)
- *American Bison: A Natural History* by Dale F. Lott (University of California Press, 2002)
- *The Destruction of the Bison* by Andrew C. Isenberg (Cambridge University Press, 2000)
- *Buffalo Nation: History and Legend of the North American Bison* by Valerius Geist (1996)
- *Survival by Hunting: Prehistoric Human Predators and Animal Prey* by George C. Frison (University of California Press, 2004)
- *The Archaeology of the Snake River Plain* by Mark G. Plew (Boise State University Press, 2000)

Articles

- Butler, B.R. 1971a. "A Bison Jump in the Upper Salmon River Valley of Eastern Idaho." *Tebiwa* 14(1):4-32.
- Butler, B.R. 1971b. "The Origin of the Upper Snake Country Buffalo." *Tebiwa* 14(2):1-20.
- Henrikson, L.S. 2003. "Bison Freezers and Hunter-Gatherer Mobility: Archaeological Analysis of Cold Lava Tube Caves on Idaho's Snake River Plain." *Plains Anthropologist* 48(187):263-285.
- Henrikson, L.S. 2004. "Frozen Bison and Fur Trapper's Journals: Building a Prey Choice Model for Idaho's Snake River Plain." *Journal of Archaeological Science* 31:903-916.

Field Guides

- *Plants of the Rocky Mountains* by Linda Kershaw, Andy MacKinnon and Jim Pojar (Lone Pine Press, 1998)
- *Along Mountain Trails and in Boggy Meadows* by Doreen Marsh Dorward and Sally Randall Swanson (The Boggy Meadows Press, 1993)
- *Roadside Geology of Idaho* by David D. Alt and Donald W. Hyndman (Mountain Press Publishing, 1989)

14. EMERGENCIES IN THE FIELD

Please bring your health insurance card to expedite treatment in the unlikely event that you need to receive medical treatment.

Ken and Molly Cannon both have First Aid and CPR training, and Challis is also served by a medical clinic (about 10 minutes from the site) that is open from 8:30 am to 5:30 pm. In the event of a medical emergency, an EMT would be contacted and the injured/ill individual would be transported by ambulance to Steele Memorial Hospital in Salmon, at least an hour's drive away (58 miles). In an extreme medical emergency the injured/ill individual would be evacuated by helicopter to Boise or Idaho Falls.

Nearest medical facility:

- North Custer Hospital District
Clinic Road, Challis, Idaho (10 minutes from project site)
Tel: +1 208-879-2883
Hours: 8:30 am-5:30

15. HELPFUL RESOURCES

Project-related Websites

- Challis Office of the BLM: <http://www.blm.gov/id/st/en/fo/challis.html>
- Midwest Archeological Center:
http://www.cr.nps.gov/mwac/field_2005/jpa/jerrypeakassessment/index.html
- Salmon-Challis National Forest: <http://www.fs.fed.us/r4/sc>
- Challis community website: <http://challisidaho.com/ahome.html>
- Challis visitor info: <http://www.gonorthwest.com/Idaho/central/Challis/chvisit.htm>

Travel Guidebooks and Booksellers

- Lonely Planet: <http://www.lonelyplanet.com>
- Rough Guide: <http://travel.roughguides.com>
- Amazon: <http://www.amazon.com>
- Barnes and Noble: <http://www.bn.com>

Travel Agency

- Tzell New England Travel Specialists (contact Maurice Hebert)
20 Melrose Street
Boston, Massachusetts 02116
Tel: +1 617 422-5000
Email: MHebert@Tzell.com

Country Information

- National Geographic Map Machine: <http://plasma.nationalgeographic.com/mapmachine>
- US State Department: <http://www.state.gov>
- Time worldwide with GMT/UTC: <http://www.worldtimeserver.com>
- Telephone dialing codes: <http://kropla.com/dialcode.htm>
- Worldwide weather: <http://www.wunderground.com> or <http://www.tutiempo.net/en>

- ATM locator: <http://visa.via.infonow.net/locator/global/jsp/SearchPage.jsp> or <http://www.mastercard.com/atmlocator/index.jsp>

Health Information

- Travel health website: <http://www.mdtravelhealth.com>
- Center for Disease Control: <http://www.cdc.gov>
- World Health Organization: <http://www.who.int>



Volunteer recording data. © Kathy Helton

APPENDIX

BISON AT CHALLIS: THE RESEARCH

The following information was taken from the research proposal submitted by the Principal Investigators to Earthwatch Institute. Included is a description of the research conducted through this project, some results to date, and other information regarding the accomplishments of the project and the staff. Specific details regarding research sites, methods, etc. is subject to change slightly from year to year and such changes may not be incorporated into this document.

BACKGROUND, OBJECTIVES, AND METHODS

Introduction

The Challis Bison Kill site is one of the best known sites in eastern Idaho and has been important in the development of models of bison ecology and the role of bison in the aboriginal economy (Butler 1971a, 1971b). However, a number of uncertainties concerning the site history, function, and bison numbers place serious doubt on the original interpretations (Cannon and Cannon 2003), hence those models derived from it (cf. Butler 1978; Plew and Sundell 2000). Our work will focus on collecting new data from the main stratigraphic unit for clarification of the site's stratigraphic record. We will also collect soil and biotic samples for interpretation of the environmental context of the site.

Research Objectives and Methods

Initial reanalysis of the Challis Bison Kill and Quill Cave material has been completed. The reanalysis brings into question a number of Butler's interpretations, most specifically the 19th century age of the bison kill, and provides specific questions to be addressed in the field investigations. We also do not understand the relationship of the kill site and the campsite. This project aims to answer the following questions:

- Do any of the original deposits exist, or were they completely excavated? Minimally, we should be able to view stratigraphic profiles exposed in excavation trenches.
- What is the relationship of the cultural deposits to the geomorphic history? For example, are there any deposits of Layer 1a/b still intact that might lead to a better understanding of the site use?
- Assess the presence of cultural deposits in layer 1c and collect appropriate environmental and radiocarbon samples.
- How does the geomorphic and cultural stratigraphy of the two sites relate?
- Are there still blowfly puparia present at the kill site? Samples reanalyzed indicate a cool season death of the bison, but the sample collected by Butler is small and indicates at least two species may be present. This is key for assessing season of death.
- Conflicting reports exist as to the presence of drive features on the top of the bluff. This area will be surveyed.
- How bison were hunted and dispatched? Visual inspection of the top of the bluff, detailed mapping, remote sensing, and geographic information systems (GIS) will all be incorporated to assess the potential that bison were driven over the bluff in a plains-style bison jump.
- What is the effect of stream erosion on the sites?

Relocation of the Original 1970 Excavation Blocks

Reassessment of the kill and camp sites will involve the relocation of the original ISU excavation blocks. In order to accomplish this geophysical prospecting may be the most efficient technique. We will apply two geophysical survey technologies (magnetometer and ground penetrating radar) to detect the presence of buried cultural deposits and more efficiently direct our subsurface investigations. Geophysics has many applications and uses many different technologies that range from measuring the earth's magnetic field to measuring the resistance of buried deposits to an electric current. One instrument we will use is the Fluxgate gradiometer. The Fluxgate is an instrument that measures deviations in the earth's magnetic field. These data can then be plotted to produce an image of magnetic anomalies found beneath the surface. These anomalies have positive and negative values that are compared to known values of archeological significance, such as fired rock (hearth) features and other ground disturbances (e.g., voids between rockfall).

The magnetometer that will be employed is a Geoscan FM36 fluxgate gradiometer (Clark 1996:69, 77-91). The data from the fluxgate magnetometer survey will be mapped with Geoplot software.

Ground-penetrating radar (GPR) is the most recent instrument to achieve popularity in archeological applications (Bevan 1977, Bevan and Kenyon 1975). Most GPR units transmit a short pulse of radio-frequency energy into the ground that detect the strength of the reflections during a series of short time intervals (Conyers and Goodman 1997). In a uniform soil there would be little energy reflected (except at the air / soil interface) and the bulk of the energy would be absorbed within a short distance. Objects included in the soil or strata with contrasting electrical properties may result in reflection of enough energy to produce a signal that can be detected back at the antenna. The amount of time between transmission of the pulse and the receipt of a reflection provides a measure of the depth of the reflecting source. A Noggin Plus GPR unit produced by Sensors and Software will be employed. The unit operates an antenna at a nominal frequency of 250 MHz (megahertz) and was mounted in a cart that records the location of the radar unit along a grid line.

These two instruments, used in tandem, can provide information on soil disturbance and allows us to make informed decisions on where to locate backhoe trenches or test excavations, as well as cultural features.

Documentation of the Stratigraphic History

Upon relocation of the original excavation units, a detailed description will be made and sediment and environmental samples (e.g., pollen/phytolith, volcanic ash, insect remains) will be collected. We also propose the hand excavation of a limited number of test units to determine the presence of undisturbed deposits.

Specific goals involved in the reassessment of the stratigraphic history include:

- Assess the level of impacts to the site by stream erosion and gravel burrow pit construction. Are there any deposits left, or did Butler completely excavate the site?
- Limited excavation, or reopen old excavation units, to assess the geomorphic context of the site in relation to contemporary models of climate change and Eckerle's (1998) depositional model for the Salmon River Canyon.
- Collect information on the relationship of cultural deposits and the geomorphic history. For example, are there any deposits of the Layer 1a/b still intact that might lead to a better understanding of the season of death, and how long the carcasses laid exposed prior to burial.

- Assess the presence of cultural deposits in Layer 1c, a possible Neoglacial paleosol, and collect samples for radiocarbon dating. Projectile points recovered indicate an age of 2000-4000 yrs BP.
- Collect samples from the underlying volcanic ash deposit for identification. The deposit is assumed to be Mazama, but without specific information on the ash chemistry this is only speculative. The identification of the ash will provide us with another bracketing age for the deposits.
- Collect soil samples for mechanical analysis of sediments, and for pollen/phytolith analysis. These samples will provide additional information on the paleoenvironmental conditions and compared to larger scale regional models.

Specific attributes of the elements will also be recorded in the field. These will include: element, side, portion, condition of bone (i.e., weathering), and element breakage.

All sediments recovered will be dry-screened using $1/8$ -inch mesh hand-shaker screens. Specific samples, such as those from features, will be water-screened through fine mesh ($1/16$ -inch). This processing will enhance our ability to recover pertinent data, such as terrestrial gastropods and microvertebrates

Drivelines on the Bluff and the Feasibility of its Function as a Jump Site

Pedestrian survey on top of bluff to assess the possible presence of drive lines and rock piles not discussed in the original 1971 report, but illustrated in Butler (1978a: Figure 26).

Map any deposits discovered on the bluff using SOKKIA Total Station and GPS units in combination with aerial photos. This information will be downloaded into a GIS for further assessment of the potential use of the site as a jump.

RESULTS AND OPPORTUNITIES

Through conversations with members of the Idaho archeological community, the reanalysis conducted to date sheds new light on an important site. However, a more definitive explanation of the Challis Bison Kill site is not possible without additional field work to clarify the discrepancies between Butler's original work and the reanalysis. It has been argued (Henrikson 2002) that bison were an inconsistent member of the regional fauna community. Our analyses will help clarify the age and ecology of the local bison a key contribution to Idaho archeology and the reconstruction of the regional paleoecological record. The information we obtain from this work will provide the BLM with a more detailed record of site condition, a first step in long-term preservation of the site complex. Our work will also be available for interpretation at the Land of the Yankee Fork Visitors Center, which is adjacent to the Challis site.

We will be coordinating our work through the Challis Field Office of the Bureau of Land Management (Carol Hearne). Carol Hearne has also been in contact with the Fort Hall Shoshone Bannock Tribe which has also expressed an interest in being involved in the field work. These discussions are ongoing.

We have already published a short article on the reanalysis in *Artifacts* (2003) and are preparing a paper for the *Plains Anthropologist*. We have also presented papers at the Society for American Archaeology annual meeting (2005) and the Great Basin Anthropological Conference (2000). A technical report of the investigations will be prepared for the BLM and we intend to develop a monograph on the work.

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- Butler, B.R. 1971b. The Origin of the Upper Snake Country Buffalo. *Tebiwa* 14(2):1-20.
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EXPEDITION PACKING CHECKLIST

Note: If you find that assembling what you'll need to participate on this project poses financial hardship, please contact Fellowship Coordinator Annie McGuinnes at Earthwatch Institute.

Essential Items

- ☐ **This Expedition Briefing**
- ☐ **Photocopies of your identification, flight itinerary and credit cards in case the originals are lost or stolen; the copies should be packed separately from the original documents**
- ☐ **The journal that was sent to you**

Required Items

Clothing/Footwear for Fieldwork

- ☐ Lightweight, quick drying long-sleeved shirts
- ☐ Lightweight, quick drying pants
- ☐ Rain jacket
- ☐ Rain pants
- ☐ Warm, windproof jacket
- ☐ Sweater, sweatshirt and/or fleece jacket
- ☐ Broken-in work boots with good ankle support
- ☐ Wide-brimmed hat
- ☐ Work gloves
- ☐ Warm hat
- ☐ Warm gloves

Clothing/Footwear for Leisure

- ☐ Additional casual clothing for evenings and field trips
- ☐ Comfortable sneakers or other close-toed footwear to give your feet a break from work boots

Field Supplies

- ☐ Small daypack/rucksack
- ☐ Small notebook
- ☐ Pens and pencils
- ☐ Drybag or plastic sealable bags (e.g. Ziploc) for protecting equipment such as camera from dust, humidity, and water
- ☐ Insect repellent spray
- ☐ Water bottle(s) able to hold at least one liter
- ☐ Sunscreen (SPF 30+)

Personal Supplies

Note: Bedding will be provided by the team's accommodations.

- ☐ Personal toiletries (biodegradable soaps and shampoos are recommended)
- ☐ Antibacterial wipes or lotion for "washing" hands while in the field
- ☐ Personal First Aid kit (e.g. anti-diarrhea pills, antibiotics, antiseptic, itch-relief, pain reliever, bandages, blister covers, etc.) and personal medications

Miscellaneous

- ☐ Spending money (traveler's checks and credit cards are probably the best choice when traveling, though there are two banks in Challis and a few ATMs for those who prefer cash)
- ☐ Camera, film/memory card(s), extra camera battery (if you bring a digital camera, bring your interface cables for downloading)

Optional Items

- ☐ Flashlight or headlamp with extra batteries and extra bulb
- ☐ Earplugs
- ☐ Blank CD or DVD for sharing digital photographs at the end of the expedition
- ☐ Cell phone for use during non-work hours only
- ☐ Binoculars
- ☐ Some duct tape (always handy, though a whole roll is not necessary)